

WHAT IS CLAIMED IS:

1. A transmissive screen applied to a rear projector, the transmissive screen comprising a light-guide plate having substantially cylindrical light-guide spaces arranged in a flat substrate; and light-exit-angle distribution uniformizing means for making the angular distribution of the light exiting correspondingly from the substantially cylindrical light-guide spaces of the light-guide plate uniform over the transmissive screen, the light-exit-angle distribution uniformizing means being disposed at the light-exiting face side of the light-guide plate.

2. The transmissive screen according to Claim 1, wherein the light-guide spaces have a diameter in the range of 1 µm to 150 µm.

3. The transmissive screen according to Claim 1, wherein the light-guide spaces have a length greater than the diameter of the light-guide spaces, and have a length of 10 mm or less.

4. The transmissive screen according to any one of Claim 1, wherein the flat substrate comprises an opaque material.

5. The transmissive screen according to any one of Claim 1, wherein the light-exit-angle distribution uniformizing means comprises a microlens array having microlenses, each microlens being provided correspondingly to each of the substantially cylindrical light-guide spaces of the light-guide plate, the microlenses in a substantially central region of the transmissive screen having radii of curvature smaller than at least the radii of curvature of the microlenses in a peripheral region of the transmissive screen.

6. The transmissive screen according to any one of Claim 1, wherein the light-exit-angle distribution uniformizing means comprises a microlens array having microlenses, each microlens being provided correspondingly to each of the substantially cylindrical light-guide spaces of the light-guide plate, a material composing the microlenses in a substantially central region of the transmissive screen has a greater refractive index than at least a second material composing the microlenses in a peripheral region of the transmissive screen.

7. The transmissive screen according to Claim 5, wherein the microlens array is disposed on the light-exiting face of the light-guide plate.

8. The transmissive screen according to Claim 5, wherein the light-guide plate comprises a light diffusing layer disposed on its light-exiting face, and the microlens array is disposed on the light-exiting face of the light diffusing layer.

9. The transmissive screen according to any one of Claim 1, wherein the light-exit-angle distribution uniformizing means comprises a light diffusing layer, the light diffusing layer in a central region of the transmissive screen having a haze value greater than at least the haze value of the light diffusing layer in a peripheral region of the transmissive screen.

10. The transmissive screen according to Claim 9, wherein the light diffusing layer diffuses light substantially at the surface thereof.

11. The transmissive screen according to Claim 9, wherein the light diffusing layer is disposed on the light-exiting face of the light-guide plate.

12. The transmissive screen according to any one of Claim 9, wherein the light diffusing layer has a haze value in the range of 5% to 90%.

13. The transmissive screen according to any one of Claim 9, wherein the light diffusing layer has a gloss value in the range of 5% to 40%.

14. The transmissive screen according to any one of Claim 9, wherein the light diffusing layer has a rough surface with substantially conical protrusions.

15. A rear projector comprising an optical projection unit, a light-guide mirror, and a transmissive screen according to any one of Claim 1.